

# Safety & Health for the Commonwealth

MASSACHUSETTS Division Of Occupational Safety  
Asbestos & Lead Program

Winter 2000

Volume I, Issue II

## "406" Rule-Pre-Renovation Lead Information:

### Renovations Disturbing Lead Paint Require Disclosure to Homeowners

#### What is this law about?

On June 1, 1999, the U.S.E.P.A. instituted a new regulation that requires renovators, who work for compensation, to distribute a pamphlet to owners and occupants of target housing built prior to 1978 before beginning renovation activity that disturbs lead paint. This pamphlet, also known as the Red, White & Blue Book, is entitled Protecting Your Family From Lead in Your Home. This pamphlet discusses ways in which occupants can protect themselves and their families from lead based paint hazards.

#### When does it apply?

This rule applies to you when:

- your work involves pre-1978 houses or apartments;
- you receive any form of **compensation** for your work;
- you disturb more than 2 square feet of lead painted surfaces; and
- your work is not specifically excluded from this law

**Compensation** extends beyond money.

Providing services in exchange for other services (e.g. bartering) is included. This applies to owners renovating their own apartment buildings using maintenance staff as well as neighborhood handymen providing services to local residents for services or goods other than money.

#### Why regulate renovation/remodeling?

Lead exposure risks can occur during renovations of housing containing lead based paint unless certain safety measures are taken. The new rule (40 CFR 745, Subpart L) was promulgated to protect families from exposure to the hazards of lead based paint through regulations, education and other activities.

The pre-renovation lead information rule (PLIR) differentiates between **renovation activities** and **excluded activities**. **Renovation** is the modification of any existing structure resulting in paint disturbance (except abatement). Some examples include *removal/modification of painted surfaces, removal of large structures, window replacement and painting*. **Excluded activities** include lead abatement work, minor housing repairs and maintenance work, and/or emergency renovation performed in housing that has already been determined by a certified lead inspector to be lead free.

#### Who is affected by this rule?

- ? Carpenters
- ? Renovators & Remodelers
- ? Electricians
- ? Painters
- ? Home Improvement Contractors
- ? Landlords/Property Managers
- ? Apartment Maintenance Staff
- ? Anyone whose work disturbs lead paint in residences.



Massachusetts Division of Occupational Safety

#### A note from the Program Manager

Thank you for taking the time to read the 2nd edition of the Division's semi-annual newsletter, "Safety and Health for the Commonwealth".

The Division of Occupational Safety's Asbestos/Lead Program works with employers, employees, unions and state and local agencies in creating healthier and safer work conditions for Massachusetts workers through site visits, analytical services, and technical information.

The Program strives to protect the occupational health and safety of all engaged in asbestos and lead activities by mandating training and licensure/certification of the workforce, setting standards of competency for those engaged in these fields, and by performing inspections in the work place to ensure compliance with the Agency's regulations.

The staff at the Division of Occupational Safety is available to answer any questions you have, and as always, we welcome your comments and suggestions for articles in upcoming issues of this newsletter. If you would like to be added to our mailing list, please complete the Reader Survey inside.

Have a safe and healthy season.

Ernest W. Kelley  
Asbestos/Lead Program Manager

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# Asbestos Ban and Phaseout Rule

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The presence of asbestos containing materials in buildings remains a source of concern for all building owners, homeowners, public facilities managers, and Local Education Agencies responsible for public and private schools.

It is not against the law to have asbestos in your building. It *is* against the law to re-apply certain asbestos containing materials. In July 1989, the E.P.A. rule, commonly known as the “Asbestos Ban and Phaseout Rule” (40 CMR 763, Subpart I, sec. 762.160-763.179) was issued. Initially, this rule intended to ban the U.S. manufacture, importation, processing or distribution in commerce of many asbestos containing product categories. However, the rule was challenged in court, and much of the original rule was overturned. Only portions of the original rule were put into effect. The Consumer Safety Product Commission (CSPC) also played a large role in prohibiting the use of asbestos in a wide variety of consumer products..

The rule currently bans the usage of

certain asbestos containing materials, such as:

- a) Spray applied asbestos coatings for fireproofing and insulating purposes (banned in 1973). Spray applied asbestos coatings for decorative purposes were banned in 1978 under a revision of the EPA National Emissions Standard for Hazardous Air Pollutants (NESHAP).
- b) The installation of wet-applied and pre-formed asbestos insulation was banned in 1975, also as part of the NESHAP regulation. This banned all types of insulation and “mud” type material on heating pipes, boiler coverings and components.
- c) The use of asbestos in artificial logs for gas-burning fireplace systems was banned in 1977.
- d) The use of asbestos in spackle and joint compound was banned in 1978.

Six asbestos containing product categories are still subject to the asbestos ban under the federal Toxic Substance Control Act (TSCA) . These include:

corrugated paper; rollboard; commercial paper; specialty paper; flooring felt; new uses of asbestos.

Products such as vinyl asbestos floor tile (VAT), roofing shingles and transite exterior siding can still be lawfully installed into new or existing buildings. Some common locations of asbestos in buildings are listed in the chart below.

If you have asbestos in your building, or uncover asbestos containing materials during remodeling or renovation, EPA advocates an in-place management program. The most common misconception is that if asbestos is in your building it must be removed. Asbestos that can be managed in place, and maintained in good condition can remain in the building until a situation arises where it must be removed as a matter of law. Any asbestos materials should be periodically inspected for signs of damage or deterioration, and repaired as necessary. Remember that any work to remove or repair asbestos materials

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## Some Common Asbestos Containing Building Materials

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- |   |  |                               |
|---|--|-------------------------------|
| • Cement Pipes  | • Laboratory Hoods/Table Tops                  | • Electric Wiring Insulation  |
| • Cement Wallboard  | • Laboratory Gloves                            | • Chalkboards                 |
| • Cement Siding   | • Fire Blankets                                | • Roofing Shingles            |
| • Asphalt Floor tile  | • Fire Curtains                                | • Roofing Felt                |
| • Vinyl Floor tile  | • Elevator Equipment Panels                    | • Base Flashing               |
| • Vinyl Sheet Flooring  | • Elevator Brake Shoes                         | • Thermal Paper Products      |
| • Flooring Backing  | • HVAC Duct Insulation                         | • Fire Doors                  |
| • Construction Mastics (floor tile, carpet, ceiling tile, etc.) | • Boiler Insulation                            | • Caulking/Putties            |
| • Acoustical Plaster  | • Breeching Insulation                         | • Adhesives                   |
| • Decorative Plaster  | • Breeching Insulation                         | • Wallboard                   |
| • Textured Paints/Coatings                                      | • Ductwork Flexible Fabric connections         | • Joint Compounds             |
| • Ceiling Tiles and Lay-in Panels                               | • Cooling Towers                               | • Vinyl Wall coverings        |
| • Spray-Applied Insulation                                      | • Pipe Insulation (corrugated, air-cell, block | • Spackling Compounds         |
| • Taping Compounds (thermal)                                    | • Heating & Electrical Ducts                   | • High Temperature Gaskets    |
| • Packing Materials (for wall/floor penetrations)               | • Electrical Cloth                             | • Electrical Panel Partitions |

NOTE: This is only a partial list of possible asbestos containing building materials. It is intended only as a general guide.

# Reader Survey

Please take a moment to complete our survey so that we may better serve you

## Reader Response Form

Did you find this newsletter useful?

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I would like more information about:

- ☐ Indoor Air Quality
- ☐ Asbestos and AHERA
- ☐ Renovation and Construction Issues
- ☐ Lead Renovation/Remodeling

Do you have a specific question/topic you would like us to address?

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I would like to be contacted for the next available asbestos training :

- ☐ Asbestos Awareness Training
- ☐ Asbestos-Associated Project Worker
- ☐ AHERA Designated Person Training

☐ Please add my name to your mailing list.

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Name

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Address

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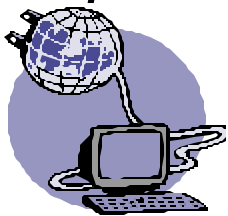
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Phone

Please FAX us at (617) 727-7581 or Mail to: Division of Occupational Safety  
Asbestos & Lead Program  
1001 Watertown Street, W. Newton, MA 02465  
Attn. Newsletter



## Helpful Reference Sources



### Asbestos & Lead Program

For help with Asbestos, Lead, or AHERA matters, or to request an asbestos or lead assessment

West Newton  
Ph: 617-969-7177 Fax: 617-727-7581

### Asbestos & Lead Licensing/Enforcement Program

For problems or assistance with the MA Asbestos or Lead

Abatement Regulations	Complaints: 1-800-425-0004
Boston 617-727-7047	Haverhill 978-372-9797
New Bedford 508-984-3562	Westborough 508-616-0461
Springfield 413-781-2676	Pittsfield 413-448-8746

[www.state.ma.us/dos](http://www.state.ma.us/dos) -MA Division of Occupational Safety, Asbestos/Lead Program, Occupational Hygiene/Indoor Air Quality Program site. Contains information on all the DOS programs and services.

[www.epa.gov](http://www.epa.gov) -US Environmental Protection Agency. Contains many links to information on IAQ issues, asbestos, lead, toxins, etc. as well as guidance documents, press releases, frequently asked questions

[www.osha.gov](http://www.osha.gov) -Occupational Safety & Health Administration. Contains guidance on OSHA compliance, including directive and interpretations on worker health and safety. Model programs available for Respiratory Protection, PPE, Hazcom, etc.

[www.niosh.gov](http://www.niosh.gov) -National Institute for Occupational Safety and Health. NIOSH conducts research for various government agencies, provides epidemiological studies, and provides recommendations for occupational safety.

[www.state.ma.us/dep](http://www.state.ma.us/dep) -MA Department of Environmental Protection. Contains information on recent penalty activities for violators

[www.hud.gov/lea](http://www.hud.gov/lea) -US Housing & Urban Development. Contains federal lead regulations, guidance documents, press releases, fre-

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## *Environmental Air Sampling as an Asbestos Assessment Tool*

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The Asbestos/Lead Program has received repeated requests for clarification on the use of environmental air sampling for asbestos assessment.

While the results of environmental air sampling for asbestos may provide useful information concerning levels of asbestos contamination and associated exposure potentials in some settings, such results often require interpretation or qualification to be meaningful. Among the factors which must be considered in the interpretation of environmental air testing results are: the conditions of sample collection, the protocols used for sample analysis and the standards to which the analytical results are compared.

The conditions of sampling, including whether or not aggressive sampling methods are used, influence the conclusions that may be drawn from an asbestos air sample analysis. Where aggressive sampling is employed, a leaf blower or similar device is used to resuspend any settled dust in the area in question prior to sample collection. This permits a "worst case" representation of the asbestos exposure occasioned by asbestos fibers in the air and settled dust of an area. Whereas normal day-to-day activity in an area might not cause a resuspension of settled dust to the extent caused by aggressive sampling, disturbances associated with renovation, moving or other similarly disruptive activity could produce corresponding levels of exposure in many instances.

*Because aggressive sampling can produce elevated air levels of asbestos and redistribution of asbestos dust, its use can only be*

*recommended in unoccupied, contained spaces, which will subsequently undergo a thorough cleaning prior to re-occupancy.*

Where aggressive sampling is not used, the sampling results will only reflect the asbestos fibers present in the air at the time of sampling. To ensure the relevancy of the sampling results, it is commonly recommended that non-aggressive sampling be conducted during periods of normal area activity and use. It should, however, be stressed that the results of environmental air sampling by themselves are rarely sufficient to adequately characterize the potential for asbestos exposure of any given situation. A competent evaluation of other quantitative and qualitative factors, including the total amount of asbestos-containing material present, the asbestos content and friability of the material, its accessibility, positioning in an airstream or plenum and potential for future damage or deterioration, is usually an indispensable component of any environmental asbestos exposure assessment. Asbestos air samples are typically analyzed by either phase contrast (light) microscopy ("PCM") or transmission electron microscopy ("TEM").

PCM methods have the advantage of being less costly, technically more simple and adaptable to on-site use. The limitations of PCM methods are that they lack the resolution necessary for visualization of very small diameter fibers (<0.25 micron), and they do not discriminate between asbestos and non-asbestos fibers. These limitations do not seriously restrict the usefulness of PCM for

analysis of post abatement air clearance samples in many cases because the asbestos fibers released during abatement work tend to be larger and because most regulations require that asbestos work areas be cleaned of all dust, not just asbestos dust. It is noteworthy that the Asbestos Hazard Emergency Response Act ("AHERA") continues to allow the use of PCM for clearance of asbestos projects in schools which involve the abatement of amounts of asbestos below the NESHAP limits. The use of PCM methods is contraindicated for assessment purposes, especially where the asbestos fibers are small and where non-asbestos species constitute a significant percentage of the total fibers present. This would typically be the case where outdoor samples are analyzed, where fibers have been recirculated in an HVAC system and where fibers originating from vinyl asbestos tile are analyzed.

Although TEM methods of analysis of asbestos air samples are more costly and time-consuming than PCM methods, they do allow the visualization and counting of the smallest asbestos fibers, and they are capable of discriminating between asbestos and non-asbestos species. TEM is therefore the method of choice for assessment purposes.

Regardless of the method used for the analysis of air samples for asbestos, the results of such analyses require comparison with appropriate regulatory standards or other generally accepted benchmarks to be meaningful.

Where air samples are analyzed for post-abatement clearance



purposes, AHERA and many state regulations specify acceptable clearance levels as 0.01 fibers per cc of air for PCM and 70 structures per square mm for TEM. Both of these levels essentially correspond to the limits of detection of the respective methods. Given the thoroughness of the clean-up that is universally required at the conclusion of all asbestos abatement projects, the achievement of these clearance air levels is a reasonable expectation. Over the past several years, however, there has been a growing trend among regulators and consultants to use the 0.01 fibers per cc and 70 structures per square mm criteria as benchmarks for hazard assessment, i.e., in the evaluation of environmental samples for the purpose of determining where an asbestos "hazard" exists and where an abatement would be required or recommended. Because of the previously-noted limitations of the PCM methodology, DOS no longer believes that PCM should be routinely used in environmental asbestos hazard assessment.

With regard to use of TEM methodology for this purpose, there is considerable disagreement among experts as to whether the conservative approach of using the 70 structures per square mm threshold as a benchmark in the designation of as an asbestos hazard is justified by risk assessment and health effects data. Such use is probably encouraged by the absence of any other officially-recognized, health-based, non-occupational

Because of the previously-noted limitations of the PCM methodology, DOS no longer believes that PCM should be routinely used in environmental asbestos hazard assessment.

exposure standard. It should also be noted that official analytical methods for measuring asbestos fibers in air are dissimilar with regard to the dimensions of structures counted as fibers. For example, the NIOSH 7400 Method (PCM), the NIOSH

7402 Method (TEM) and the OSHA Reference Method (PCM) count only fibers with lengths of 5 microns and longer, whereas the TEM methods specified by EPA for clearance of AHERA projects count fibers with lengths of 0.5 microns and longer. These differences are probably academic in many situations where airborne asbestos fibers which originate from nearby friable asbestos materials are being measured, as a release of fibers in a range of lengths could be expected from many of these materials. The differences are more significant in situations where airborne asbestos fibers which originate from VAT are being counted, as these fibers are predominantly shorter than one micron in length, as reported in the literature. Whereas most research suggests a higher association of asbestos disease with exposure to longer fibers, there is considerable disagreement among experts as to the pathogenicity of the shorter fibers. The USEPA is currently studying this issue.

## Asbestos Project Designs

Project Designs must be prepared for all Asbestos Response Actions conducted in schools and facilities subject to the federal EPA AHERA regulation. In view of the potential exposure risks occasioned by improperly designed abatements in schools, DOS believes that this requirement is appropriate and reasonable. DOS does not require that Project Designs be prepared for abatements conducted in non-AHERA facili-

ties. However any Project Design, whether prepared for an AHERA or non-AHERA facility, *must* be prepared by a certified Asbestos Project Designer.

In making a determination as to whether a work specification is a Project Design, DOS will consider whether its preparation was rendered as a compensated, professional service, whether the specification emphasizes how the work is to be conducted, and whether

the specifics of the abatement plan are tailored to a particular site. A specification submitted by a contractor as part of a proposal or contract, particularly one focused on deliverables, such as the work to be performed and the coverings to be abated, would not necessarily constitute a Project Design. In addition, DOS is less likely to determine that a specification containing generic information pertaining to safety and health programs, not tailored to a specific site, is a Project Design.

## Lead Based Paint Hazards in Homes—Federal Regulations Change

The U.S. Dept. of Housing & Urban Development (HUD) has issued a new regulation to protect young children from lead-based paint hazards in housing that is financially assisted by the federal government or being sold by the government. Effective September 2000, the new regulation is being issued under sections 1012 and 1013 of the Residential Lead Based Paint Hazard Reduction Act of 1992 (Title X), and now appears within the Code of Federal Regulations, 24 CFR 35. This consolidates all of the Departments' lead-based paint regulations in one part of the Federal Regulations, making it easier to find HUD policy on the subject.

The regulation sets hazard reduction requirements that give much greater emphasis to reducing lead in house dust. Also, this regulation uses the framework of trained and/or certified lead based paint professionals developed by the EPA and with the cooperation of most states for individuals performing risk assessments, lead based paint abatement and lead dust monitoring.

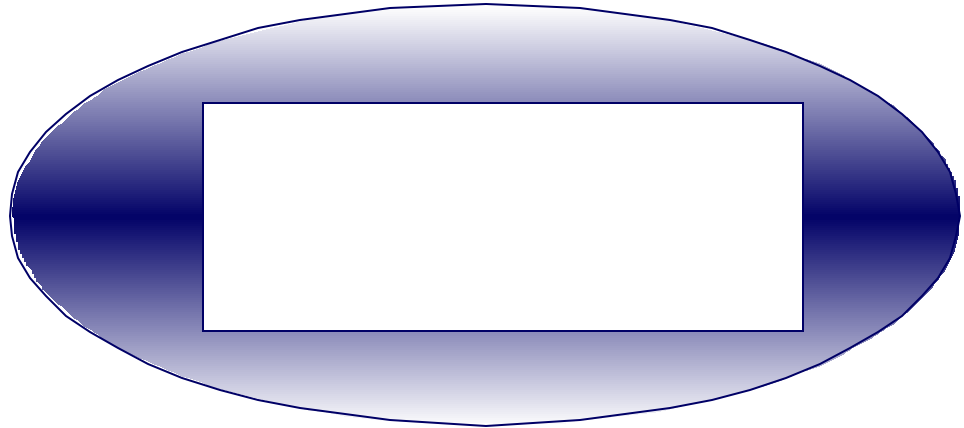
Due to the multiple facets of this regulation, a detailed article will be forthcoming in the next issue of this Newsletter, to explain and clarify the key points and terms presented in the regulation.



## Division of Occupational Safety

1001 Watertown Street  
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## Most Common AHERA Violations

During the past several years, the Division of Occupational Safety (DOS) has found that Massachusetts schools share many common AHERA violations. How does your local education agency (LEA) compare?

- Failure to designate a person to ensure the AHERA requirements are implemented.
- Failure to inform workers or the building occupants at least once a year about inspections, response actions, and post-response action activities that are planned or in progress.
- Failure to notify parents, teachers or organizations annually of the Management Plan's availability.
- Failure to conduct or document the 6-month periodic surveillance of school buildings.
- Failure to provide appropriate training for maintenance/custodial staff.
- Failure to post asbestos warning labels in routine maintenance areas (boiler rooms).
- Failure to maintain complete records on removals/repairs, fiber release episodes, operations & maintenance activities.
- Failure to document that accredited personnel performed asbestos related activities in the school, including laboratories analyzing samples.
- Failure to conduct the 3-year re-inspection.

*If you have questions about compliance with AHERA, please contact an Environmental Engineer at our Newton office (617) 969-7177.*



*Argeo Paul Cellucci,  
Governor*

*Jane Swift,  
Lieutenant Governor*

*Angelo Buonopane,  
Director*

*Robert J. Prezioso,  
Deputy Director*

*Ernest W. Kelley,  
Program Manager*

### **Mission Statement**

*The Division of Occupational Safety (DOS) mission is to prevent occupational injuries and illnesses in Massachusetts. We work with employers, employees, unions and government officials to create safe and healthy work environments through site visits, analytical testing, and the dissemination of information.*